

CLAIMS

1. A fuel cell system comprising:

a combination of a fuel cell, a power distributor connected to the fuel cell,
and a secondary cell connected to the power distributor;

5 a load set connected to the power distributor; and

a controller adapted, during distribution of power from the power distributor
to the load set after a startup completed with the fuel cell and the secondary cell
warmed up,

10 to raise a temperature of the fuel cell when the fuel cell fails to
meet a first criterion for a service thereof, and

to raise a temperature of the secondary cell when the secondary cell
fails to meet a second criterion for a service thereof.

2. A fuel cell system according to claim 1, wherein

15 the fuel cell has auxiliary equipment therefor as part of the load set, and

the controller is configured to effect an increment of power consumption at
the auxiliary equipment, and to increase power generation of the fuel cell to
compensate for the increment, raising the temperature of the fuel cell.

20 3. A fuel cell system according to claim 1, wherein the first criterion comprises
a threshold for a possible generation of the fuel cell.

4. A fuel cell system according to claim 3, wherein the possible generation is
estimated in terms of the temperature of the fuel cell.

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5. A fuel cell system according to claim 3, wherein

the fuel cell has a fuel recirculating line for fuel supply thereto, and

the possible generation is estimated in terms of a purge frequency of the fuel

recirculating line.

6. A fuel cell system according to claim 1, wherein the second criterion comprises a threshold for one of a possible charge and a possible discharge of the secondary cell.

7. A fuel cell system according to claim 6, further comprising a vehicular portion including a passenger room, a cell chamber configured to accommodate the secondary cell, and a fan operable to introduce air from the passenger room to the cell chamber, wherein

the controller is configured to operate the fan to raise the temperature of the secondary cell when a third criterion for the passenger room is met, and

the third criterion comprises a decision for a representative temperature of the passenger room to be higher than a representative temperature of the cell chamber.

8. A fuel cell system according to claim 7, wherein the third criterion comprises a threshold for a changing ratio of the representative temperature of the passenger room.

9. A fuel cell system according to claim 7, wherein the fan comprises an air fan operable to cool the secondary cell.

10. A fuel cell system comprising:

a combination of a fuel cell, a power distributor connected to the fuel cell, and a secondary cell connected to the power distributor;

a load set connected to the power distributor; and

control means for, during distribution of power from the power distributor

to the load set after a startup completed with the fuel cell and the secondary cell warmed up,

raising a temperature of the fuel cell when the fuel cell fails to meet a first criterion for a service thereof, and

5 raising a temperature of the secondary cell when the secondary cell fails to meet a second criterion for a service thereof.

11. A control method for a fuel cell system comprising a combination of a fuel cell, a power distributor connected to the fuel cell, and a secondary cell connected to
10 the power distributor, and a load set connected to the power distributor, the control method comprising, during distribution of power from the power distributor to the load set after a startup completed with the fuel cell and the secondary cell warmed up:

raising a temperature of the fuel cell when the fuel cell fails to meet a first
15 criterion for a service thereof; and

raising a temperature of the secondary cell when the secondary cell fails to meet a second criterion for a service thereof.